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Wisconsin
Department of Commerce

Program Letter
Division of Environmental and Regulatory Services
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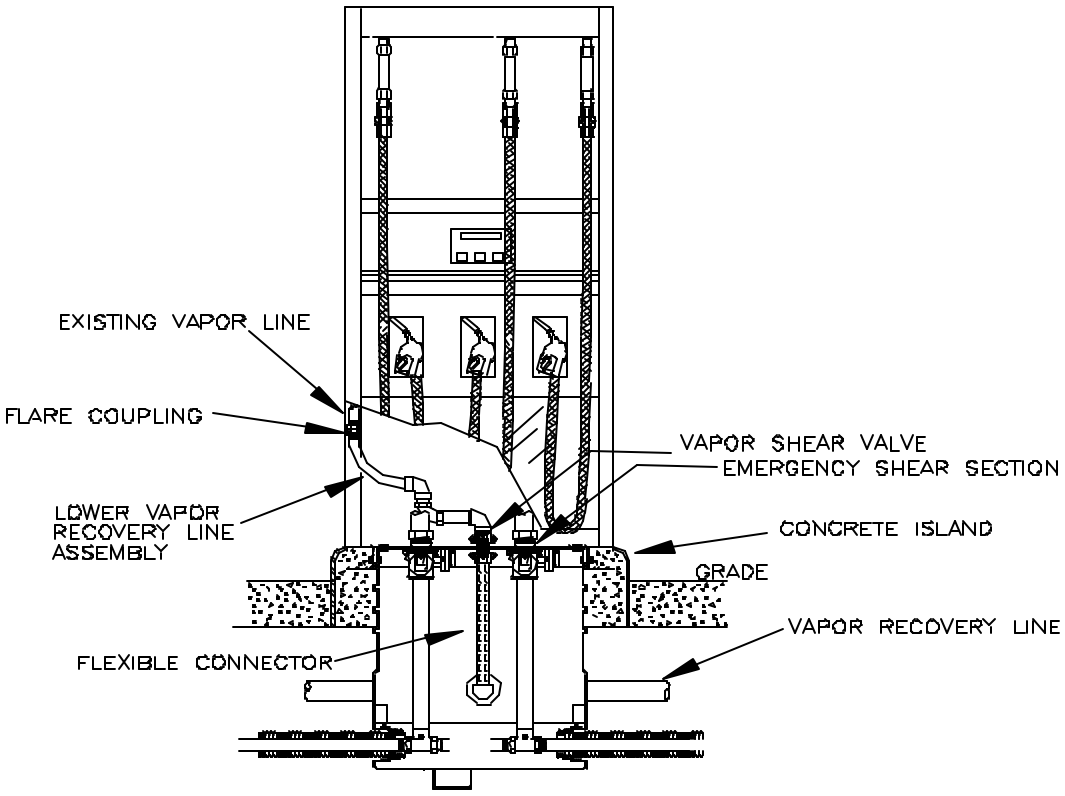
Stage II Vapor Recovery Dispenser Connection

Questions have surfaced regarding acceptable connection of the Stage II piping within a dispenser. Configuration of components within the dispenser body will influence how the connection is made between the shear valve and the stage II vapor line. Some confusion has prevailed regarding mandates for specific components. Some individuals believe that the code requires a flex connector between the Stage II shear valve and the piping on the dispenser end of the shear valve. This is not the case since none of the four conditions of ILHR 10.51(2)(e) are a factor. NFPA's use of the term *flexible connector* (i.e. NFPA 30A-4-3.7) applies to components that are flexible rather than rigid, not specifically to the stainless steel mechanical flex connectors that the code mandates in ILHR 10.51(2)(e).

PEI 300-93 - 4.11 Dispenser Connections states: *The most common method of connecting the vapor riser to the dispenser is through the use of flexible hose. . .* CARB Executive Order G-70-150-AD qualifies this practice by directing that *the dispenser shall be connected to the riser with either flexible or rigid material which is listed for gasoline. The dispenser to riser connection shall be installed so that any liquid in the line will drain toward the storage tank. . .*

Acceptable components to connect the stage II piping to the shear valve are: flex connectors listed for aboveground use, copper tubing, steel pipe, or hose listed for Class I product.



Some manufacturers ship the dispenser with the internal vapor line connection flush with the base of the dispenser. Since Wisconsin requires a shear valve on the Stage II line at the base of the dispenser, the internal vapor line must be modified to allow a connection from the internal vapor line to the shear valve.

To enhance the element of fire safety at the dispenser Wisconsin requires:

- A poppetted shear valve to prohibit the escape of flammable vapors from the Stage II line should the dispenser be impacted and moved from its base. Without the poppetted shear valve vapors in the line may escape or be forced out of the breached line by pressures within the system.
- A listed flex connector at the base of the poppetted shear valve to reduce forces on the connection by stress, vibrations, etc.
- The shear valve must be properly designed and mounted to the dispenser to restrict vapors from escaping to the atmosphere if the dispenser is impacted in a manner that would cause a breach in the vapor line.

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